

CHAPTER 2

OPERATION AND FUNCTION

This chapter discusses the operation and function of the M203 grenade launcher.

2-1. OPERATION

The grenadier's operations include loading, unloading, and firing the weapon. The weapon uses a high-low propulsion system to fire a 40-mm round. The firing pin strikes the primer, whose flash ignites the propellant in the brass powder-charge cup inside the high-pressure chamber. The burning propellant produces 35,000 psi chamber pressure, which ruptures the brass powder-charge cup at the vent holes and allows the gases to escape to the low-pressure chamber in the cartridge case. There the pressure drops to 3,000 psi and propels the grenade from the muzzle at a velocity of 250 fps. The grenade's 37,000-rpm right-hand spin stabilizes it during flight and applies enough rotational force to arm the fuze. The weapon is unloaded with the barrel open and fired from a closed bolt. It must be cocked before it can be placed on SAFE.

2-2. LOADING

To load the weapon, the grenadier must first press the barrel latch and slide the barrel forward. Once the barrel is in the forward position, the grenadier places the weapon on SAFE and visually inspects the barrel to ensure it is clear. Then he inserts clean, dry, undented ammunition into the chamber and slides the barrel rearward until it locks with an audible click (Figure 2-1).

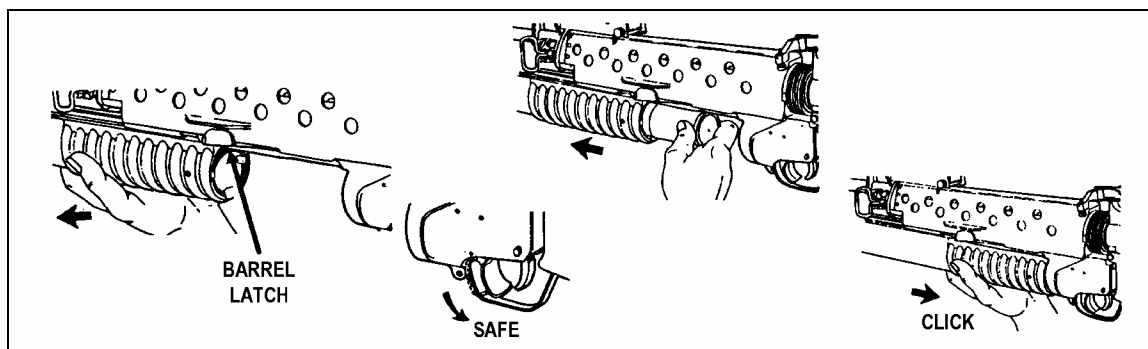


Figure 2-1. Loading the M203 grenade launcher.

WARNING

Keep the muzzle pointed downrange and clear of all soldiers.

Use the correct ammunition: never use high-velocity 40-mm ammunition designated for other 40-mm weapons such as the MK 19. High-velocity rounds are longer than those used in the M203 and may cause this weapon to explode.

2-3. UNLOADING

To unload the grenade launcher, the grenadier must first depress the barrel latch and move the barrel forward. The cartridge case or round should automatically eject. If the case is stuck, he taps it with a cleaning rod to remove it (Figure 2-2). He places the weapon on SAFE, then slides the barrel rearward, locking it to the breech.

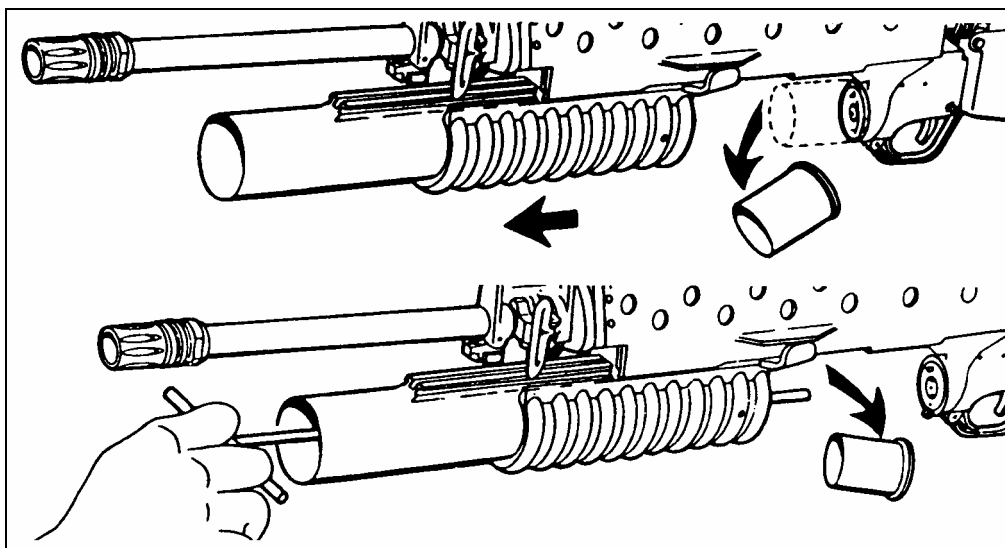


Figure 2-2. Unloading the M203 grenade launcher.

WARNING

If you are unloading a weapon that has not been fired, avoid detonation either by catching the ejected round or by holding the weapon close to the ground to reduce the distance the round can fall.

2-4. CYCLE OF FUNCTIONING

Knowing the M203's cycle of functioning from loading to firing helps grenadiers recognize and correct stoppages. Many of the actions described in this chapter occur at once, but here they are explained separately.

a. **Unlocking.** The cycle begins when the grenadier depresses the barrel latch to unlock the barrel assembly and slides the barrel assembly forward (Figure 2-3).

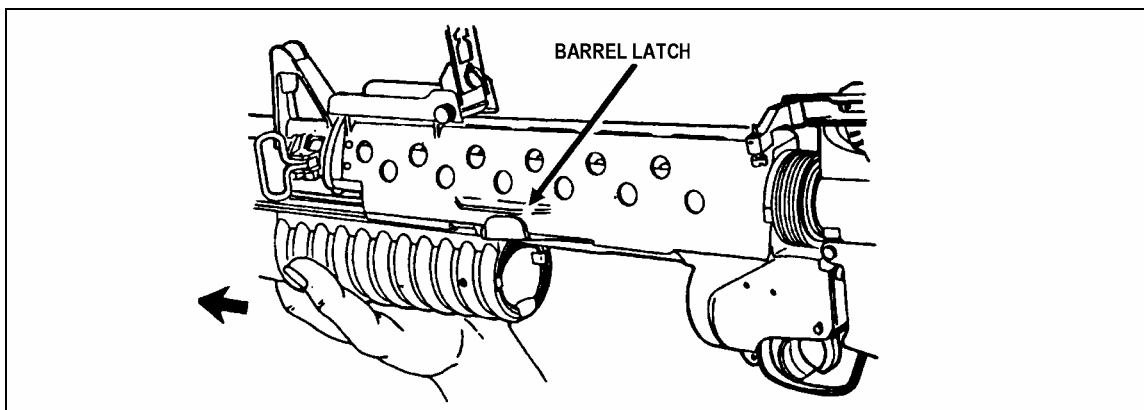


Figure 2-3. Unlocking the barrel assembly.

b. **Cocking.** The grenadier moves the barrel assembly forward, then backward, to cock the weapon. As the barrel assembly moves, it takes with it the barrel extension. Their movement causes the following to occur:

(1) The cocking lever is forced down as the barrel assembly and barrel extension, which are interlocked with the cocking lever, move forward.

(2) The movement of the cocking lever forces the spring-loaded firing pin to the rear.

(3) The spring-loaded follower also moves forward with the barrel extension.

(4) The barrel assembly continues forward, disengaging the barrel extension from the cocking lever. The cocking lever is then held down by the follower.

(5) When the grenadier begins to move the barrel assembly back to the rear, this forces the follower to the rear.

(6) The cocking lever again engages the barrel extension, which causes the firing pin to move slightly forward and engage the primary trigger sear. This cocks the weapon (Figure 2-4, page 2-4).

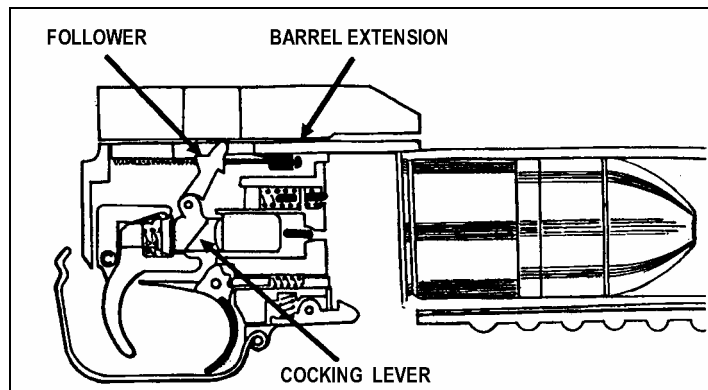


Figure 2-4. Cocking the M203 grenade launcher.

c. **Extracting.** Extracting and cocking occur at the same time. As the grenadier opens the barrel assembly, a spring-loaded extractor keeps the live round or spent cartridge case seated against the receiver until the barrel clears the cartridge case (Figure 2-5).

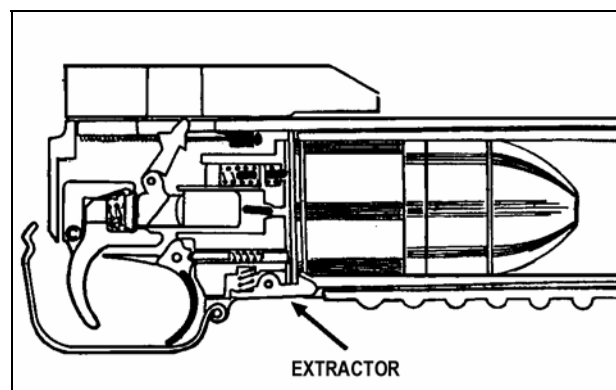


Figure 2-5. Extracting the round or cartridge case.

d. **Ejecting.** The spring-loaded ejector pushes the live round or spent cartridge case from the barrel assembly (Figure 2-6).

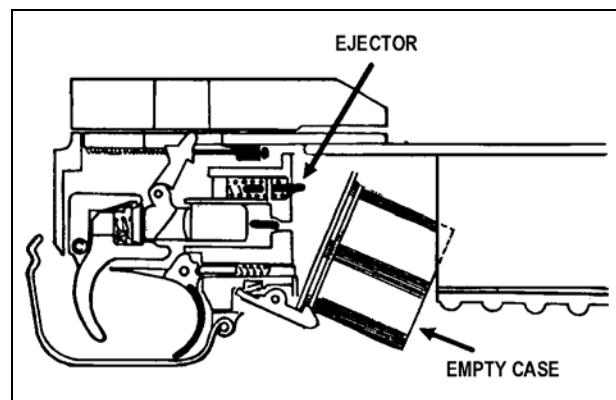


Figure 2-6. Ejecting the round or cartridge case.

e. **Loading.** With the barrel assembly open, the grenadier inserts a round into the breech end of the barrel (Figure 2-7).

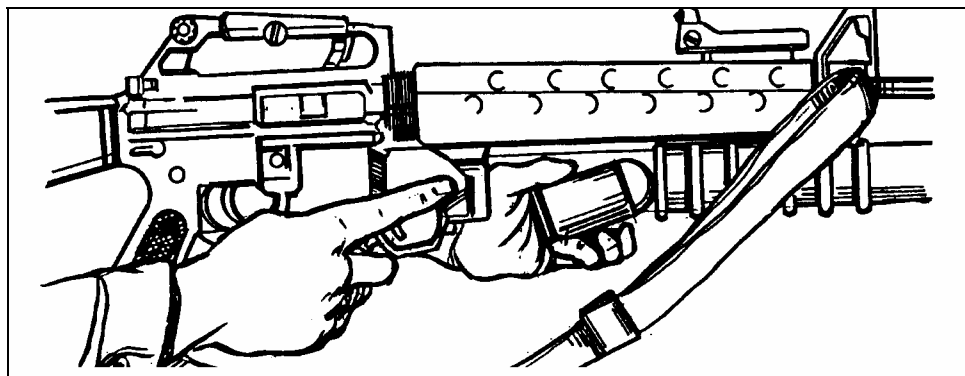


Figure 2-7. Loading the M203 grenade launcher.

f. **Chambering.** As the grenadier closes the breech end of the barrel assembly, the extractor contacts the rim of the cartridge and seats (chambers) the round firmly (Figure 2-8).

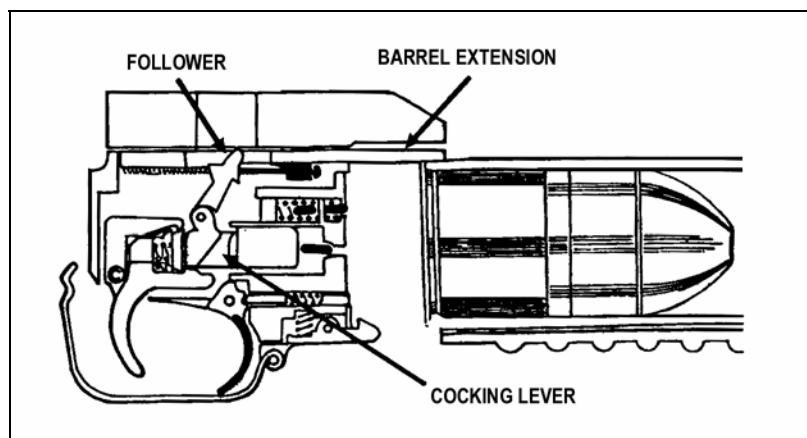


Figure 2-8. Chambering a round.

g. **Locking.** As the barrel assembly closes, the barrel latch engages it. The cocking lever engages the barrel extension so that it cannot move forward along the receiver assembly.

h. **Firing.** When the grenadier pulls the trigger, the primary trigger sear disengages from the bottom sear surface of the firing pin. This releases the spring-driven firing pin, forcing it forward against the cartridge primer (Figure 2-9, page 2-6).

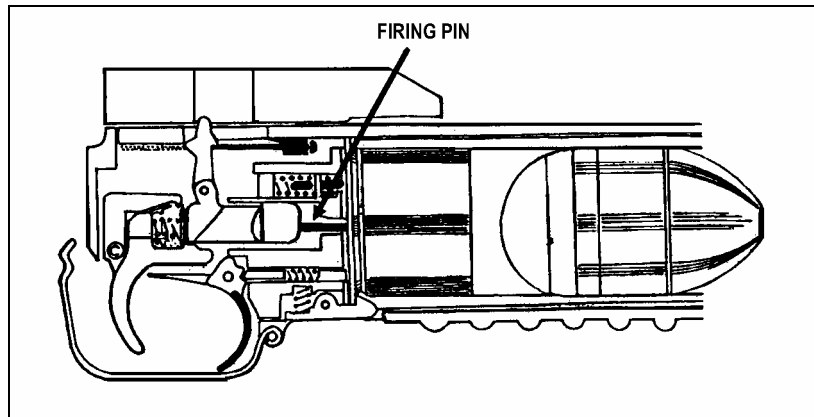


Figure 2-9. Firing the M203 grenade launcher.